

Aquatic Invasive Species Organisms in Trade

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Organisms in Trade (OIT)

- Refers to unwanted species sold or moved in trade
- May be intentional sales, such as plants for aquariums or ornamental ponds, or fish for aquaculture
- May be unintentional introduction as contaminants or misidentification/unfamiliarity with scientific name
- AIS OIT includes plants, fish, mammals, mollusks and other invertebrates

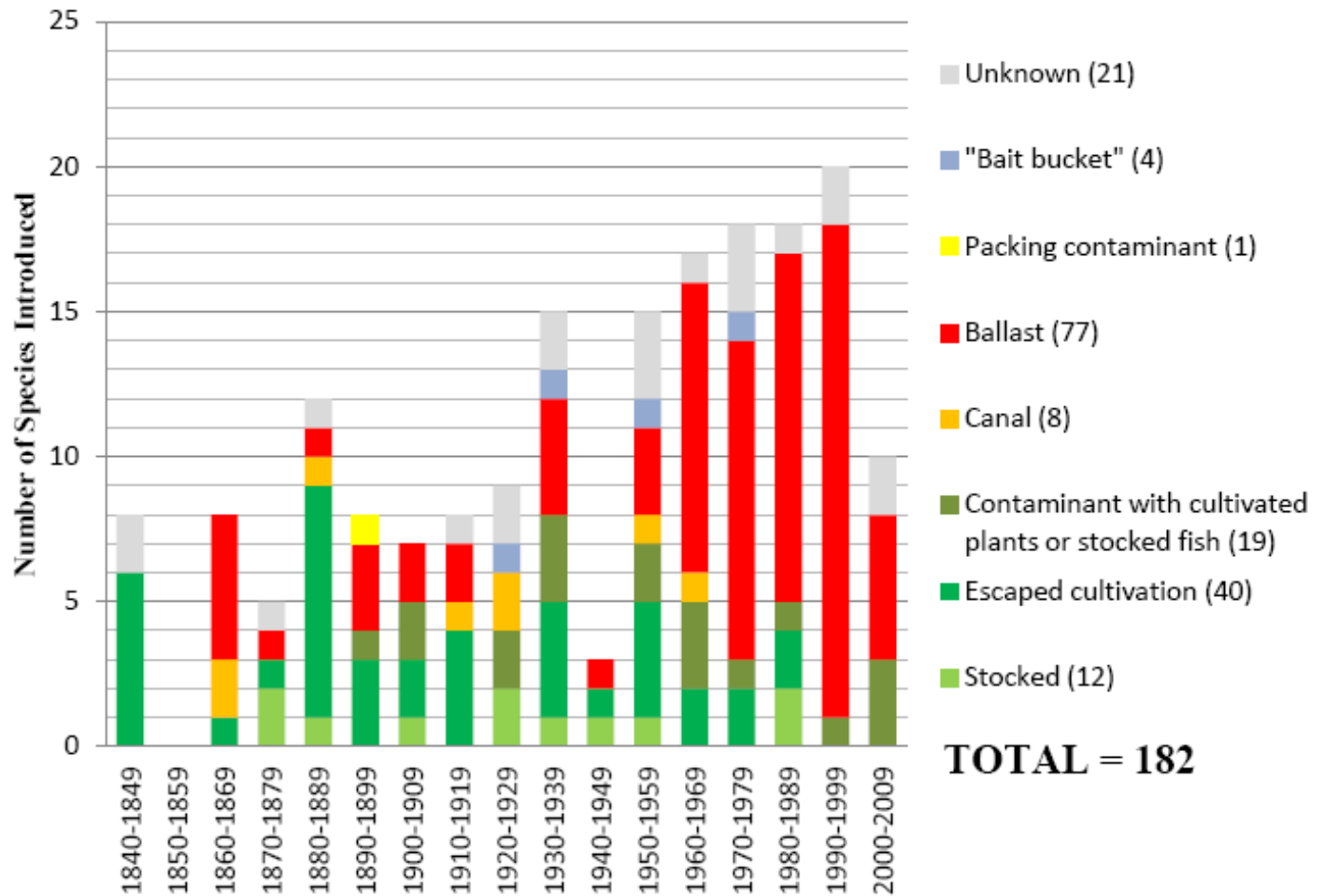
Channels of Trade for Introducing OIT

- Suppliers of
 - aquarium and ornamental pond plants
 - Wetland plants
 - Fish for aquaculture or bait use
- May involve
 - traditional sales to/through retail stores
 - internet sales
 - trafficking in illegal plants & animals

New opportunities/new risks

- **Internet: the new pathway**
- **New opportunities for sales of regulated organisms**
- **Online auctions**
- **Internet discussions, interest groups and chat rooms**

Introduction of AIS to the Great Lakes



Source: NOAA

aquatic plant vendor study

- **Maki & Galatowitsch 2003 U of Minnesota**
- **mail order study**
- **40 orders, 34 vendors across U.S.**
- **Federal/state regulated species acquired 92% of time**
- **93% contained a species not requested**
- **18% had misidentified plants**

Carolina fanwort



Flowering Rush



How big is the threat of AIS in trade?

- Easy to buy some species on the internet
- Easy to buy some species at certain local stores
- Sellers unaware of misidentified product
- Package deals made up for chain stores sometimes include species regulated by Michigan or USDA
- Distribution to friends & neighbors of exotic species

Internet sales

Submerged Aquatic Plants: Oxygenating Plant Species for Ponds - Windows Internet Explorer

http://www.liveaquaria.com/product/aquarium-fish-supplies.cfm?c=767+772

parrot feather plant

File Edit View

Favorites Suggested Sites Free Hotmail Web Slice Gallery XEROX WORKCENTRE - Scan MDARD Export HOME PAGE... MDARD HOME PAGE create ...

Submerged Aquatic Plants: Oxygenating Plant Specie...

FREE SHIPPING!
On orders over \$225!
SEE DETAILS

Pond Plant

- Bog Plants
- Floating
- Lilies
- Lotus
- Submerged
- Pond Packs

Diver's Den

Weekly Specials

Aquarium Supplies

resources

- Shipping Rates & Info
- How to Order
- We're here to help:
 - Email Us
 - 1-800-334-3699
- Compatibility Chart

Submerged Aquatic Plants

Submerged aquatic plants aid in maintaining clean water, discouraging algae growth, and providing oxygen. These plants can be potted in one-gallon pots and should be completely submerged underwater at least 12 inches. *These plants are shipped in bunches loosely held together with rubber bands.*

Preorder your Pond Plants NOW! Shipping to warmer climate states starts March 19th: AL, CA, FL, GA, LA, MS, NC, SC, TX, and VA. All other states start on April 16th. Check our [Plant Hardiness Zone Chart](#) for the climate zone in your region. Want to receive a notification when your order ships? Simply confirm your email address during checkout!

NEW TO LIVEAQUARIA? [Learn how easy](#) it is to order your pond fish online.

DO NOT RELEASE ...any aquarium or pond species into local waters. Please do your part to protect the environment. [Here's how](#)

Information Center:

- 100% Satisfaction
- Shipping Schedule
- Invasive Species
- Lotus Care
- Zone Map
- Selection Guide

Page view options: View as thumbnails | View as text only with quick order

3 results

Anacharis (Dozen)
(*Egeria densa*)
Starting at \$19.99
IN STOCK

Cabomba (Dozen)
(*Cabomba caroliniana*)
Starting at \$19.99
IN STOCK

Hornwort (Dozen)
(*Ceratophyllum demersum*)
Starting at \$19.99
IN STOCK

Narrow Your Results:

Sort results by:

- Alpha - Common Name
- Alpha - Scientific Name
- Price Low to High
- Price High to Low

Hardiness: -choose-

Care Level: -choose-

Lighting: -choose-

Max. Size:

start

Inbox - Mailbox - Bry...

C:\Documents and Se...

AIS Council update 0...

Submerged Aquatic Pl...

Internet

100%

5:46 PM

Legal Authorities

- **Natural Resources & Environmental Protection Act, Act 451 of 1994, Part 413**
- **Insect Pests and Plant Diseases, Act 189 of 1931**
- **Aquaculture Development Act, Act 199 of 1996**
- **Animal Industry Act, Act 466 of 1988**

NREPA part 413

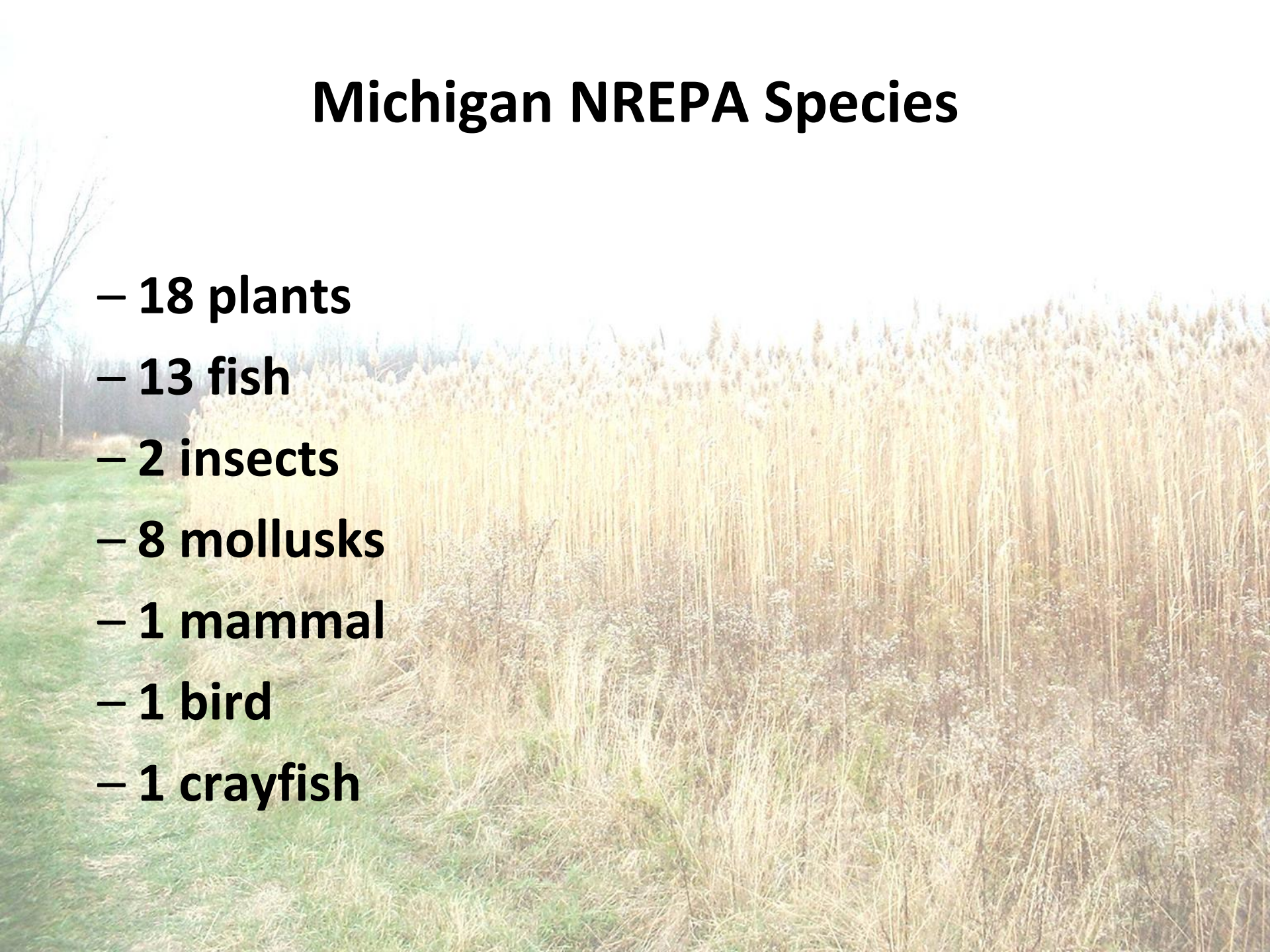
- **Identifies 44 prohibited or restricted AIS**
- **Requirements for permits, fines & public information**
- **Identifies meaning of “possession” and exemptions**
- **Section 324.41302 Listing/delisting process**

Listing/delisting

- **Commission may add to/delete from 324.41301**
- **Post proposed order on web site; copies to legislature, senate & house committees on agriculture, environmental and natural resources issues**
- **Identifies broad criteria**
- **Does not specify Who/What/Where process for submitting a species**

Michigan NREPA Species

- 18 plants
- 13 fish
- 2 insects
- 8 mollusks
- 1 mammal
- 1 bird
- 1 crayfish



Michigan NREPA regulated plants

- *Butomus umbellatus* – flowering rush*
- *Cabomba caroliniana* – Fanwort*
- *Cylindrospermopsis raciborskii* - Cylindro
- *Egeria densa* - Brazilian elodea *
- *Fallopia japonica* - Japanese knotweed*
- *Heracleum mantegazzianum* - Giant hogweed



Michigan NREPA regulated plants

- *Hydrilla verticillata* - hydrilla
- *Hydrocharis morsus-ranae* – European frogbit*
- *Lagarosiphon major* – African oxygen weed*
- *Lythrum salicaria* – purple loosestrife*
- *Myriophyllum aquaticum* – parrot's feather*
- *Myriophyllum spicatum* – Eurasian watermilfoil*



Michigan NREPA regulated plants

- *Nitellopsis obtusa* - Starry stonewort
- *Nymphoides peltata* - Yellow floating heart *
- *Phragmites australis* – common reed*
- *Potamogeton crispus* – curly leaf pondweed
- *Salvinia molesta, auriculata, biloba, or herzogii* - Giant salvinia *
- *Trapa natans* - Water chestnut*

* Indicates species has been sold/utilized for aquarium, water gardens or similar activities

MDARD AIS OIT Objectives

- **Prevent new introductions & spread of AIS through water garden & aquarium plant trade channels**
- **Prevent spread of AIS through aquaculture & fish stocking activities**

Challenges/Opportunities

- **State agencies may not have traditional interactions with some industry groups – not required by statute**
- **Smaller state work force & reduced funding**
- **Best Management Practices promotion in industry**
- **Increased partnerships with industry groups**

MDARD Action Plan

- **Train staff in support of compliance inspections**
- **Identify universe of firms that sell aquatic plants & fish**
- **Conduct education & outreach w/ industry**
- **Administer AIS permit program in support of research and educational activities**
- **Provide information on regulated species**



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Prohibited and Restricted Weeds

Prohibited & Restricted Weeds

Michigan laws regulate the possession and sale of certain plant species which are considered undesirable from agricultural as well as environmental viewpoints. These unwanted species are listed below according to the applicable laws and regulations.

A. Prohibited Plant Species (Natural Resources and Environmental Protection Act (Act 451 of 1994, as amended))

Prohibited species identified under this Act cannot be sold or grown in the state.

Any of the following plants, fragments, seeds or a hybrid or genetically engineered variant thereof are specifically prohibited.

<i>Cabomba caroliniana</i>	fanwort
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